



2010 ONE AND TWO-FAMILY CONSTRUCTION POLICIES AND INSPECTION PROCEDURES

Phone: 919.249.3418
Fax: 919.249.3407

Office Hours – 8:00 AM to 5:00 PM

Building/Construction Working Hours – 7:00 AM to 8:30 PM

- 1) **Permit/Plan Review – N.C. State Building Code**
Refer to the One and Two-Family Dwelling Plan Checklist. All items listed on the checklist must accompany the application in order to be considered complete. A non-refundable plan review fee is required for each submittal. If plans are not sufficient to complete a plan review, the applicant will be notified to come and pick up the unapproved plans. Plans which must be re-submitted are subject to an additional plan review fee. Permits and/or plans that are not picked up within thirty (30) days of approval and notification will be discarded. Once a permit has been issued, any change, addition, or deletion to plans, which has not been approved, will require an additional plan review fee and written approval prior to start the work. Submit proposed changes along with a completed Plan Modification Application in accordance with the One and Two-Family Dwelling Plan Checklist.
- 2) **Inspection Requests**
Inspection requests are made at the Permit Center of the Inspection Department in the Town Hall Building at 73 Hunter Street, or via the Inspection Request Line at **249-3388**. It is the responsibility of the superintendent or building contractor to coordinate and ensure work is **complete** and **ready** for inspection. Only inspection requests from the contractor or designated representatives will be scheduled. Inspections requested prior to 3 p.m. will be scheduled for inspection the next day. Inspection requests called in after 3 p.m. will be scheduled for the day after. All inspections that are scheduled are assumed to be **ready** for an inspection at **8:00 a.m.** on the scheduled date. Footing and Mono/Slab inspections will be A.M. inspections.
- 3) **Sample Permit Card**: See page 6. **NOTE**: Inspections listed on the permit card may not be applicable to all projects and there may be instances where an inspection is needed that is not listed on the card. See page 5 for examples of “other inspections” requiring permits and inspections.
- 4) **Safety**: In order for the Town inspection representatives to perform their duties all safety elements and devices must in place in accordance with State and Federal standards. Areas of concern include, but are not limited to trench protection, **temporary guardrails and handrails**, and ladder safety.
- 5) **Load Management Switch**: The Town of Apex administers a “load management” program for peak hours electrical demands. All new residential buildings supplied with electrical power provided by the Town of Apex electrical utility are required to have load management “switches” connected to air conditioners and electric water heaters, prior to scheduling the final building inspection.

Load management switches are provided free of charge, and are available at the Public Works building (105 Upchurch Street) from 8:00 AM to 12:00 PM and from 1:00 PM to 5:00 PM, Monday through Friday excluding Town holidays. The following information must be provided to obtain load management switches:

- A) Building permit number, subdivision, address and lot number.
- B) Total number of air conditioning units.
- C) Total number of electric water heaters.

REQUIRED INSPECTIONS:

TEMPORARY BOARD

(Progress Energy & Town of Apex)

- Permit posted.
- Temporary Board in place, braced in (2) directions; maintain required working clearances in front of panel with meter ring on site if required.
- For **Progress Energy power**, line side wiring is not required to be installed.
- For **Town of Apex power**, trench in service laterals from the temporary board to the pedestal or transformer. Trenches are to be a minimum of 24" deep and left open for inspection. Temporary boards are to be located approximately 3' to the side, and 6" in front of the transformer or pedestal. A sufficient amount of free wire must be left to make up connections in the pedestal or transformer. (Approximately 3' of free wire is sufficient for make up to a pedestal or installations on the right side of a transformer. At least 5' of free wire is required to make up installations on the left side of a transformer, because the wire terminals are on the right side of the transformer vault.) For alternate locations contact the Town of Apex electrical inspector.

FOOTING INSPECTION

- Permit posted, approved building and plot plans on site.
- Construction driveway, silt fence, and auto barrier in place.
- Trench and pier footings excavated to stable soil a minimum of 12" below grade; cleaned of all roots, stumps, loose earth, etc.
- Grade markers in place. (Treated wood or metal.)
- Bulkheads in place at step-downs.
- Interior of foundation scraped, and any organic material removed.
- Reinforcing steel in place (if required).
- If reinforcing steel is utilized in the footing then a 20' length of ½" steel bar or rod shall be bonded with a minimum of #4 AWG long enough to extend through the foundation for use as a grounding connection as required by NEC 250.52. (**It shall terminate at an accessible location**)
- Engineer's analysis of the soil bearing is required when soft soils are encountered. The supporting test must be by DCP or other approved method.
- **Superior Wall Systems** require a footing inspection prior to placement of stone.

MONO SLAB/FOOTING INSPECTION

- Plumbing Under Slab inspected and approved prior to slab prep.
- Permit posted, approved building and plot plans on site.
- Fill material in place.

- Footings excavated to stable soil 12" below grade (cleared of all roots, stumps, loose earth, etc.).
- Forms in place (6" minimum above finished grade).
- Thickened footings in place.
- Perimeter insulation in place.
- Vapor barrier in place (no tears, edges lapped 6" minimum).
- Slab reinforcement in place (when required).
- **Perimeter anchor bolts supported in place.** If reinforcing steel is utilized in the footing then a 20' length of ½" steel bar or rod shall be bonded with a minimum of #4 AWG long enough to extend through the foundation for use as a grounding connection as required by NEC 250.52 (**It shall terminate at an accessible location**)
- Engineer's analysis of the soil bearing is required when soft soils are encountered. The supporting test must be by DCP or other approved method.

CERTIFIED FOUNDATION SURVEY

- The Certified Foundation Plot Plan shall be posted with the "approved" plot plan for review at the **foundation inspection**.

VENEER INSPECTION

(Required prior to the installation of any stone, brick, or manufactured veneer products)

- Permit posted, approved building plans on site.
- All required steel lintels are to be on site. If lintels are required to be bolted, they should be properly bolted in place at the time of this inspection.
- Approved vapor barrier material, shelf flashings, window flashings, and lintel flashings are to be in place at the time of this inspection. These materials are to be properly lapped and free of tears.
- Properly installed wall ties are to be in place to a height of approximately 6' above the adjacent grade.
- For adhered veneers, properly installed vapor barriers and lath materials are required to be in place.
- **Installation instructions** and valid **Compliance Report** are required on site for manufactured veneer.
- **Stone Veneer** shall be on site at time of veneer inspection.

FORMED WALL INSPECTION

(Required for all formed walls prior to placement of concrete)

- Permit posted, approved building plans and plot plan on site.
- Engineered design for reinforcement may be required
- All forms in place and properly braced.
- Safe access to top of wall required for inspection.

GROUTED WALL INSPECTION

- Permit posted, approved building plans and plot plan on site.
- Follow the Inspection Procedures for Grouted Masonry document located on the Town website.

FOUNDATION INSPECTION

- Permit posted, approved building plans and certified plot plan on site.
- Foundation walls and piers in place.
- Foundation vent openings in place.
- Tops of footings cleaned off around perimeter walls and interior piers.
- Foundation bolts in place.
- **Garage and basement slab** areas scraped clean (no loose dirt, organic material, or construction debris in slab area).
- Crawl space and porch areas free of construction debris, roots, stumps, etc.

NOTE: Inspection of steel reinforcement in forms may be required depending on the design of concrete walls or grouted walls.

DECK FOOTING INSPECTION

- Permit posted, approved building and plot plans on site.
- Footings excavated to stable soil a minimum of 12" below grade; cleaned of roots, stumps, loose earth, etc.
- Grade markers in place. (Treated wood or metal.)

SLAB INSPECTION (NON MONOLITHIC SLAB)

- Plumbing Under Slab must be inspected and approved prior to slab inspection.
- Permit posted, approved building plans and plot plan on site.
- Slab area prepared – See R506.2 for approved base material (compaction report from soils engineer may be required for underlying soils).
- Perimeter insulation in place.
- Vapor barrier in place (no tears; edges lapped 6" minimum).
- Thickened footings in place.
- Slab reinforcement in place (when required).

PLUMBING UNDER SLAB INSPECTION

- Permit posted and approved plans on site.
- All drain lines bedded on approved material for full length of pipe. (PVC DWV pipe ASTM F891 bedding aggregate size shall not exceed ½" for angular stone.)
- 10' head water test in place or 5-psi air test.

- Stub up for water closet to be 4", or if 3", the pipe is to be wrapped at the slab level so that the outside collar on the closet flange can be installed without having to break concrete around the pipe.
- **All plumbing lines** through the slab are to be **sleeved and/or wrapped** with 0.025" thick material.
- Building drain sleeved and sealed through foundation wall or footing.
- All organic material and **uncompacted fill removed** from the slab area.
- Backwater valve in place (where required).

ROUGH-IN INSPECTION

- Permit posted, approved building and plot plans on site.
- A. **Framing:** Completed according to the approved structural plan. Including a "dried in" building with roof flashing in place; all necessary blocking, fire stopping, draft stopping, furring, piping and duct chases, corner and wall bracing, dead wood, insulation air channels, windows and exterior doors, etc. – such that, upon completion of the rough-in inspection, no further framing is required before interior or exterior finish materials are installed.
- B) **Plumbing:** All water supply and drain lines installed and tests for leakage in place; tubs, showers, and shower pans in place; building drain run to the exterior of the foundation; nail guards, pipe supports, water lines insulated (in unheated areas); holes through plates firestopped; repairs made for over-notched plates, over-bored studs, and drilled floor joists; back water valves installed (where necessary).
- C) **Mechanical:** Components to be in place: Supply boots and return duct plenums, all duct work that will be concealed; gas piping installed and under appropriate test pressure; refrigerant and condensate piping that will be concealed; repairs to structural members; appliance vents; prefab fireplaces; bath exhaust fans and vents; fire stops.
- D) **Electrical:** Appliance, lighting, and receptacle wiring and boxes in place; electrical panels installed with home runs pulled into the panels; wires properly secured and protected; fire stops in place.

WATER AND SEWER INSPECTION

- Permit posted.
- Water service line is to be installed completely from the connection to the meter yoke through the foundation at a minimum depth of 12 inches below the adjacent grade level.
- A minimum of 18" of copper water line is to connect the water service line to the meter yoke. (See Town of Apex Construction Specifications Detail 6.03).
- ASTM numbers on piping are to be visible.
- The sewer service line is to be installed completely from the point of connection provided by the utility through the foundation wall of the building.
- The drain line through the foundation (or footing) is to be **sleeved** and **sealed** with a **flexible mastic** sealant at the time of this inspection.
- The sewer line is to be bedded for the full length.
- Backwater valve in place (where required).

DRIVEWAY SPECIFICATIONS FOR INSPECTION

- Permit posted.
- Driveways shall be constructed in accordance with Town of Apex Standard Drawings 4.02 & 4.05.
- All forms shall be in place for an inspection, including utility strip and sidewalk forms.
- Soil and debris shall be cleared from the curb for 5' outside of each curb-cut.
- Curb-cuts shall be smooth and devoid of cavities and protrusions.
- Subgrade shall be dry and compacted.
- A NCDOT encroachment agreement is required for all driveways constructed on state-owned roads.
- Within the driveway approach, all broken gutter sections shall be removed and replaced maintaining 5' minimum between joints.

INSULATION INSPECTION

- Permit posted.
- Insulation and vapor barriers properly installed in all areas that will be concealed by finish materials.
- Fenestration calculations or a passing **signed** ResCheck report to be on site at time of inspection.

WATERPROOFING INSPECTION

(To be scheduled after the foundation inspection)

- Permit posted and plans on site.
- Waterproofing membrane, drain tile, and stone in place around entire perimeter of basement.
- Supply compliance report for waterproofing system (if system is not specifically detailed in the Code).

CONDITIONAL ELECTRICAL / MECHANICAL

- These are **mandatory** inspections that shall be **approved** before the final inspection. The building shall be energized and the electrical circuits utilized to help complete the final inspection. (**This is not a final electrical or mechanical inspection.**)
- All electrical wiring (and mechanical systems where applicable) are to be completed.
- Complete the Conditional Power/Conditional Mechanical Request forms at the inspections office.

FIRE WALLS

- Permit posted and plans on site.
- Separation walls between townhome units
- Offset walls with rated assemblies may require separate interior and exterior firewall inspections.
- Exterior columns within 3' of the property line.

TOWNHOMES

- Permit posted and plans on site.
- Provide two-hour separation between units.
- Offset walls with rated assemblies may require separate interior and exterior firewall inspections.
- Exterior columns within 3' of the property line must be rated.
- Protected construction may be required in other areas of the building within 48" of the property line. Schedule a pre-construction meeting prior to ensure a complete understanding of requirements.

RETAINING WALL FINAL (Separate Permit Req'd)

- Permit posted and approved plans and plot plan on site. This permit must be finalized before a Certificate of Occupancy will be issued for the dwelling.
- Certified plot plan on site if required – see permit.
- Provide a compliance letter from an approved third party inspector.

FINAL INSPECTION

- Permit posted and approved building plans on site.
- All relevant inspections must be signed off on the permit card.
- A certified foundation plot plan showing all legal elements of the premises including all structures that have been permitted and approved under separate permits. Including but not limited to main dwelling, cantilevers, fireplaces, decks, pools, retaining walls, mechanical equipment, etc.
- All building components completed including mechanical, electrical and plumbing systems; stairs, decks, handrails, guardrails, exterior and interior finish material (excluding floor finishes/coverings, and interior paint); applicable Town of Apex Code of Ordinance Requirements, and all other building and technical code requirements as specified by the NC State Building Code.
- Public Works utility inspection final inspection complete. Schedule inspection with **Public Works at 249 - 3427**
- Planning Department final inspection complete
- Retaining wall permits have been finalized.
- Wake County well and septic permits (if applicable) have been finalized with a copy of the final approval presented at final inspection.
- Public sidewalk in Right of Way completed and accepted by the Engineering Division.

OTHER INSPECTIONS

- Swimming Pools (Require separate permits) building(Barrier requirement) and electrical
- Retaining Walls (Require separate permits)

There are other inspections that may be required that are not listed herein. Please note that all work must be inspected prior to covering. If you are not sure if an inspection is required please speak with a code enforcement officer prior to covering the new work.

IRRIGATION

- Requires 2nd water meter
- Permit posted and approved plans on site
- Water service trenches open from meter to RPZ backflow device.
- RPZ device installed and braced on each side of RPZ with rebar or (other approved metal rods) clamped to vertical piping.
- Provide unions for removal of RPZ and protective enclosure on site or provide listed ASSE1060 with electrical power for heat source.
- Rain sensor installed and hooked up properly.
- Provide RPZ test report to Town of Apex Public Works Department

TOWN OF APEX, NORTH CAROLINA – BUILDING PERMIT DEPARTMENT

ALL WORK PERFORMED SHALL COMPLY WITH THE STATE BUILDING CODE AND NO BUILDING SHALL BE OCCUPIED WITHOUT A CERTIFICATE OF OCCUPANCY VALIDATED BY THE TOWN OF APEX
249-3418

Application Number.....
Property Address.....
Alternate Location ID.....
Application Description.....
Subdivision Name.....
Property Use.....
Property Zoning.....

**Sample Permit Card
&
Index for
"Inspection Procedure Requirements"
(following pages)**

PERMIT BUILDING PERMIT RESIDENTIAL

Additional Desc:

Required Inspections					
Seq	Inspec Code	Description	Index	Initials	Date
10	PL04	Plmb, Plumbing U/Slab	<u>see pg.3</u>	_____	<u> / /</u>
20	BD01	Bldg, Footing/Mono Slab	<u>see pg.2</u>	_____	<u> / /</u>
20	BD05	Bldg, Slab	<u>see pg.2</u>	_____	<u> / /</u>
30	BD03	Bldg, Foundation	<u>see pg.2</u>	_____	<u> / /</u>
30	FL00	Flood Zone	<u>see note 1 (below)</u>	_____	<u> / /</u>
30	BLDG	Foundation Survey Req.	<u>see pg.2</u>	_____	<u> / /</u>
50	FR01	Bldg Frame Rough-in	<u>see pg.3</u>	_____	<u> / /</u>
50	ME01	Bldg Mech Rough-in	<u>see pg.3</u>	_____	<u> / /</u>
50	PL05	Bldg Plumb Rough-in	<u>see pg.3</u>	_____	<u> / /</u>
50	EL02	Bldg, Elec. Rough-in	<u>see pg.3</u>	_____	<u> / /</u>
50	BD40	Insulation	<u>see pg.4</u>	_____	<u> / /</u>
999	BD08	Bldg, Driveway	<u>see pg.4</u>	_____	<u> / /</u>
999	BD04	Waterproofing	<u>see pg.4</u>	_____	<u> / /</u>
999	EL01	Temporary Pwr Board	<u>see pg.2</u>	_____	<u> / /</u>
999	BD11	Bldg, Veneer	<u>see pg.2</u>	_____	<u> / /</u>
999	PL03	Plmb, Back wtr valve	<u>see note 2 (below)</u>	_____	<u> / /</u>
999	PL02	Sewer Service	<u>see pg.3</u>	_____	<u> / /</u>
999	PL01	Water Service	<u>see pg.3</u>	_____	<u> / /</u>
999	E01	Deck Footing	<u>see pg.3</u>	_____	<u> / /</u>
999	PM02	Other Inspection	-----	_____	<u> / /</u>
999	PM03	Other Inspection	-----	_____	<u> / /</u>
999	PM04	Other Inspection	-----	_____	<u> / /</u>
999	PM01	Other Inspection	-----	_____	<u> / /</u>
999	CO01	Conditional Pwr/Cond. Mech.	<u>see pg.4</u>	_____	<u> / /</u>
1000	BD09	Final	<u>see pg.4</u>	_____	<u> / /</u>

1. Flood zone paperwork is required to be submitted to the inspections department prior to scheduling "rough-in" inspections. (When applicable).
2. The backwater valve must be in place at the time of the "plumbing under slab inspection" for multistory buildings. (When applicable).